

Certificate Under 37 CFR 3.73(b)

#17
RAC
5/18/96

05/04/98

Applicant: Mark D. Owen, Bonnie A. Larson, and Josef Van Puymbroeck

Application No.: 08/651,036 Filed: May 17, 1996

For: METHOD EMPLOYING UV LASER PULSES OF VARIED ENERGY DENSITY TO FORM DEPTHWISE SELF-LIMITING BLIND VIAS IN MULTILAYERED TARGETS

Electro Scientific Industries, Inc., an Oregon corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

B. ☒ A chain of title from the inventor(s), of the patent application identified above, to the current assignee as shown below:

1. From: Jozef Van Puymbroeck To: Siemens NV
The document was recorded in the Patent and Trademark Office at Reel 8599, Frame 0608, or for which a copy thereof is attached.
2. From: Siemens NV To: Electro Scientific Industries, Inc.
The document was recorded in the Patent and Trademark Office at Reel 8588, Frame 0921, or for which a copy thereof is attached.
3. From: Mark D. Owen & Bonnie A. Larson To: Electro Scientific Industries, Inc.
The document was recorded in the Patent and Trademark Office at Reel 8536, Frame 0734, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☒ Copies of assignments or other documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 4-21-98

Name: Larry T. Rapp

Title: Vice President and Corporate Secretary

Signature: [Signature]



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

AUGUST 12, 1997

PTAS



100455545A

STOEL RIVES LLP
MICHAEL L. LEVINE
900 SW FIFTH AVENUE, SUITE 2300
PORTLAND, OREGON 97204-1268

**UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT**

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, NORTH TOWER BUILDING, SUITE 10C35, WASHINGTON, D.C. 20231.

RECORDATION DATE: 07/07/1997

REEL/FRAME: 8599/0608
NUMBER OF PAGES: 4

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

VAN PUymbROECK, JOZEF

DOC DATE: 05/23/1997

ASSIGNEE:

SIEMENS N.V.
CHARLEROISESTEENWEG 116
B-1060 BRUSSEL, BELGIUM

SERIAL NUMBER: 08651036
PATENT NUMBER:

FILING DATE: 05/17/1996
ISSUE DATE:

JOANN STEWART, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

ASSIGNMENT

WHEREAS, I, JOZEF VAN PUYMBROECK, of Oostkamp, Belgium, have made inventions described in a United States patent application entitled **METHOD EMPLOYING UV LASER PULSES OF VARIED ENERGY DENSITY TO FORM DEPTHWISE SELF-LIMITING BLIND VIAS IN MULTILAYERED TARGETS**, filed with the United States Patent and Trademark Office on May 17, 1996, and allotted Application No. 08/651,036; and

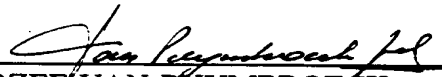
WHEREAS, SIEMENS NV, a Belgium corporation, having a place of business at Charleroisesteenweg 116, B-1060 Brussel, Belgium, is desirous of acquiring an interest therein:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I, JOZEF VAN PUYMBROECK, hereby sell, assign, and transfer to SIEMENS N.V. the full and exclusive right, title, and interest in and to said inventions, said patent application, and any and all patent rights and letters patent for said inventions in the United States and elsewhere throughout the world, including foreign patent priority rights and the right to apply for patents in foreign countries in my name or in the name of SIEMENS N.V., and further including all divisions and continuations of said application and of any foreign patent applications and all reissues and extensions of patent rights and letters patent for said inventions, all to be held and enjoyed by SIEMENS N.V., for its own use and benefit, and by its successors and assigns for their own use and benefit, for the full duration of the terms for which patent rights and letters patent may be granted in this or any foreign country, and covenant that I have full right so to do, and agree that I will communicate to SIEMENS N.V., and its successors and assigns, any facts known to me respecting said inventions, and testify in any legal proceeding, sign all lawful papers, execute all lawful divisional, continuation, and reissue applications, make all rightful declarations or oaths, and do everything lawfully possible to aid SIEMENS N.V., and its successors

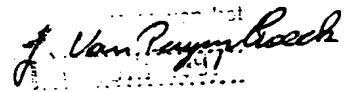
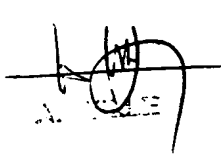
and assigns, to obtain and enforce proper patent protection for said inventions
in this or any foreign country.

Executed at Oostkamp, Belgium, this 23 day of

May, 1997.


JOZEF VAN PUYMBROECK


Oostkamp
20 F


J. Van Puymbroeck
Notary
Belgium


STOEL RIVES LLP
900 SW Fifth Avenue, Suite 2300
Portland, Oregon 97204-1268
Telephone: (503) 224-3380
Facsimile: (503) 220-2480
Attorney Docket No. 26860/33:47



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

AUGUST 06, 1997

PTAS



100455544A

STOEL RIVES LLP
MICHAEL L. LEVIN
900 SW FIFTH AVENUE, SUITE 2300
PORTLAND, OREGON 97204-1268

**UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT**

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, NORTH TOWER BUILDING, SUITE 10C35, WASHINGTON, D.C. 20231.

RECORDATION DATE: 07/07/1997

REEL/FRAME: 8588/0921
NUMBER OF PAGES: 4

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
SIEMENS N.V.

DOC DATE: 06/04/1997

ASSIGNEE:
ELECTRO SCIENTIFIC INDUSTRIES, INC.
13900 NW SCIENCE PARK DRIVE
PORTLAND, OREGON 97229-5497

SERIAL NUMBER: 08651036
PATENT NUMBER:

FILING DATE: 05/17/1996
ISSUE DATE:

JOANN STEWART, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS



100455544

PATENT APPLICATION
JUL 07 1997
RECEIVED

IN THE UNITED STATES PATENT AND TRADEMARK SERVICE

In re application of

Group Art Unit: 2106

Mark D. Owen, Bonnie A. Larson,
and Jozef Van Puymbroeck

Application No. 08/651,036

Filed: May 17, 1996

For: **METHOD EMPLOYING UV LASER
PULSES OF VARIED ENERGY DENSITY
TO FORM DEPTHWISE SELF-LIMITING
BLIND VIAS IN MULTILAYERED TARGETS**

Date: July 3, 1997

Examiner: Gregory Mills

ASSIGNMENT COVER LETTER

TO THE COMMISSIONER OF PATENTS AND TRADEMARKS:

1. Name of conveying party:
Siemens N.V. Execution Date:
June 4, 1997
2. Name and address of receiving party:
Electro Scientific Industries, Inc.
13900 NW Science Park Drive
Portland, Oregon 97229-5497
3. Nature of conveyance:
[X] Assignment
[] Security Agreement
[] Merger
[] Change of Name
[] Other: _____
4. [X] Application No.: 08/651,036
5. Please direct all correspondence concerning this document to Michael L. Levine, at the following address:

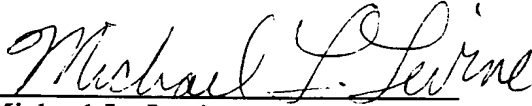
Stoel Rives LLP
900 SW Fifth Avenue, Suite 2300
Portland, Oregon 97204-126807/15/1997 TTOM11 00000333 00651036
01 FC:581 40.00 00)

6. Total number patents or applications involved: one
7. Total fee: \$40.00.
[X] A check for \$40.00 in payment of the assignment recording fee is enclosed.
[] The \$40.00 fee for recording this assignment is included in the \$_____ check submitted in payment of the total fee.
8. [] Please charge our Deposit Account No. 19-4455 in the amount of \$_____.
[X] The Commissioner is hereby authorized to charge any additional fees which may be required in connection with filing of these papers, or credit overpayment, to Account No. 19-4455.
9. The information contained on this transmittal letter is true and correct to the best of the knowledge and belief of the person signing below, and any attached copy is a true copy of an original document.

Respectfully submitted,

**Mark D. Owen, Bonnie A. Larson,
and Jozef Van Puymbroeck**

By


Michael L. Levine
Registration No. 33,947

Number of pages comprising the conveyance, cover letter, and any attachments: 4

STOEL RIVES LLP
900 SW Fifth Avenue, Suite 2300
Portland, Oregon 97204-1268
Telephone: (503) 224-3380
Facsimile: (503) 220-2480
Attorney Docket No. 26860/33:47

ASSIGNMENT

WHEREAS, SIEMENS N.V., of Brussel, Belgium, has acquired certain rights to the inventions described in a United States patent application entitled **METHOD EMPLOYING UV LASER PULSES OF VARIED ENERGY DENSITY TO FORM DEPTHWISE SELF-LIMITING BLIND VIAS IN MULTILAYERED TARGETS**, filed with the United States Patent and Trademark Office on May 17, 1996, and allotted Application No. 08/651,036; and

WHEREAS, ELECTRO SCIENTIFIC INDUSTRIES, INC., an Oregon corporation, having a place of business at 13900 NW Science Park Drive, Portland, Oregon 97229-5497, is desirous of acquiring an interest therein:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, SIEMENS N.V. does hereby sell, assign, and transfer to ELECTRO SCIENTIFIC INDUSTRIES, INC. the full and exclusive right, title, and interest in and to said inventions, said patent application, and any and all patent rights and letters patent for said inventions in the United States and elsewhere throughout the world, including foreign patent priority rights and the right to apply for patents in foreign countries in the name of ELECTRO SCIENTIFIC INDUSTRIES, INC., and further including all divisions and continuations of said application and of any foreign patent applications and all reissues and extensions of patent rights and letters patent for said inventions, all to be held and enjoyed by ELECTRO SCIENTIFIC INDUSTRIES, INC., for its own use and benefit, and by its successors and assigns for their own use and benefit, for the full duration of the terms for which patent rights and letters patent may be granted in this or any foreign country, and covenant that it has full right so to do, and agree that it will communicate to ELECTRO SCIENTIFIC INDUSTRIES, INC., and its successors and assigns, any facts known to SIEMENS N.V. respecting said inventions, and testify in any legal proceeding, sign all lawful papers, execute

all lawful divisional, continuation, and reissue applications, make all rightful declarations or oaths, and do everything lawfully possible to aid ELECTRO SCIENTIFIC INDUSTRIES, INC., and its successors and assigns, to obtain and enforce proper patent protection for said inventions in this or any foreign country.

Executed at Brussel, Belgium, this 4th day of
June, 1997.

SIEMENS N.V.

By

Jacques De Smedt
Vice President

Daniel Hendrix
Executive Assistant



STOEL RIVES LLP
900 SW Fifth Avenue, Suite 2300
Portland, Oregon 97204-1268
Telephone: (503) 224-3380
Facsimile: (503) 220-2480
Attorney Docket No. 26860/33:47

VU POUR LEGALISATION
DE LA SIGNATURE DE
De Smedt Jean
BERCHEM-SAINTE-AGATHE, le 4 VI. 1997
LE BOURGMESTRE

L'agent communal délégué
De *Demachy* de *général de* *beambte*

Vu pour légalisation de la signature
apposée par M. *Daniel Hendrix*
Charteroi, le 4 VI. 1997
L'agent communal délégué
en vertu de l'art. 126
de la nouvelle loi communale



Deffer

Application No.: 08/651,036

Filed: May 17, 1996

Inventor(s): Mark D. Owen, Bonnie A. Larson, and Jozef Van Puymbroeck

Title: **METHOD EMPLOYING UV LASER PULSES OF VARIED ENERGY DENSITY TO FORM
DEPTHWISE SELF-LIMITING BLIND VIAS IN MULTILAYERED TARGETS**

Art Unit: 2106

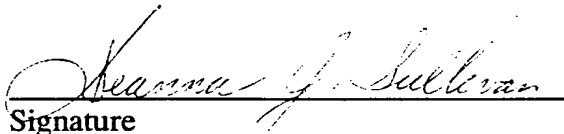
Examiner: Gregory Mills

Attorney Docket No.: 26860/33:47 US

CERTIFICATE OF MAILING

Date of Deposit July 3, 1997

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS
BEING DEPOSITED WITH THE UNITED STATES POSTAL
SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE
ADDRESSED TO: ASSISTANT COMMISSIONER FOR
PATENTS, WASHINGTON, D.C. 20231


Signature

Deanna J. Sullivan
Typed or printed name of person signing
certificate

Attachment(s):

- ☒ Assignments (2)
- ☒ Assignment cover letters (2)
- ☒ Two \$40.00 checks for recordal fees



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

JULY 10, 1997

PTAS

STOEL RIVES LLP
MARK D. OWEN
900 SW FIFTH AVENUE, STE. 2300
PORTLAND, OR 97204-1268



100434205A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, NORTH TOWER BUILDING, SUITE 10C35, WASHINGTON, D.C. 20231.

RECORDATION DATE: 05/22/1997

REEL/FRAME: 8536/0734
NUMBER OF PAGES: 5

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

OWEN, MARK D.

DOC DATE: 05/17/1996

ASSIGNOR:

LARSON, BONNIE A.

DOC DATE: 05/17/1996

ASSIGNEE:

ELECTRO SCIENTIFIC INDUSTRIES, INC.
13900 NW SCIENCE PARK DRIVE
PORTLAND, OREGON 97229-5497

SERIAL NUMBER: 08651036
PATENT NUMBER:

FILING DATE: 05/17/1996
ISSUE DATE:

KIMBERLY BARNES, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

MAY 22 1997
PATENT APPLICATION
RECEIPT ACCT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Group Art Unit: 2106

Mark D. Owen, Bonnie A. Larson,
and Jozef Van Puymbroeck

06-11-1997

Application No. 08/651,036

Filed: May 17, 1996



100434205

For: **METHOD EMPLOYING UV LASER
PULSES OF VARIED ENERGY DENSITY
TO FORM DEPTHWISE SELF-LIMITING
BLIND VIAS IN MULTILAYERED TARGETS**

Date: May 20, 1997

Examiner: Gregory Mills

ASSIGNMENT COVER LETTER

TO THE COMMISSIONER OF PATENTS AND TRADEMARKS:

1. Name of conveying parties:
Mark D. Owen
Bonnie A. Larson

Execution Date:
February 21, 1997
February 21, 1997
2. Name and address of receiving party:
Electro Scientific Industries, Inc.
13900 NW Science Park Drive
Portland, Oregon 97229-5497
3. Nature of conveyance:

☒ Assignment
☐ Security Agreement
☐ Merger
☐ Change of Name
☐ Other: _____
4. ☒ Application No.: 08/651,036
☒ The execution date of the application is May 17, 1996.
5. Please direct all correspondence concerning this document to Michael L. Levine, at the following address:

Stoel Rives LLP
900 SW Fifth Avenue, Suite 2300
Portland, Oregon 97204-1268

6. Total number patents or applications involved: one
7. Total fee: \$40.00.
[X] A check for \$40.00 in payment of the assignment recording fee is enclosed.
[] The \$40.00 fee for recording this assignment is included in the \$_____ check submitted in payment of the total fee.
8. [] Please charge our Deposit Account No. 19-4455 in the amount of \$_____.
[X] The Commissioner is hereby authorized to charge any additional fees which may be required in connection with filing of these papers, or credit overpayment, to Account No. 19-4455.
9. The information contained on this transmittal letter is true and correct to the best of the knowledge and belief of the person signing below, and any attached copy is a true copy of an original document.

Respectfully submitted,

Mark D. Owen, Bonnie A. Larson,
and Jozef Van Puymbroeck

By



Michael L. Levine

Registration No. 33,947

Number of pages comprising the conveyance, cover letter, and any attachments: 5

STOEL RIVES LLP
900 SW Fifth Avenue, Suite 2300
Portland, Oregon 97204-1268
Telephone: (503) 224-3380
Facsimile: (503) 220-2480
Attorney Docket No. 26860/33:47

PATENT APPLICATION

ASSIGNMENT

WHEREAS, we, MARK D. OWEN, of Beaverton, County of Washington, State of Oregon, and BONNIE A. LARSON, of Hillsboro, County of Washington, State of Oregon, have made inventions described in a United States patent application entitled **METHOD EMPLOYING UV LASER PULSES OF VARIED ENERGY DENSITY TO FORM DEPTHWISE SELF-LIMITING BLIND VIAS IN MULTILAYERED TARGETS**, filed with the United States Patent and Trademark Office on May 17, 1996, and allotted Application No. 08/651,036; and

WHEREAS, ELECTRO SCIENTIFIC INDUSTRIES, INC., an Oregon corporation, having a place of business at 13900 NW Science Park Drive, Portland, Oregon 97229-5497, is desirous of acquiring an interest therein:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, MARK D. OWEN and BONNIE A. LARSON, hereby sell, assign, and transfer to ELECTRO SCIENTIFIC INDUSTRIES, INC. the full and exclusive right, title, and interest in and to said inventions, said patent application, and any and all patent rights and letters patent for said inventions in the United States and elsewhere throughout the world, including foreign patent priority rights and the right to apply for patents in foreign countries in our names or in the name of ELECTRO SCIENTIFIC INDUSTRIES, INC., and further including all divisions and continuations of said application and of any foreign patent applications and all reissues and extensions of patent rights and letters patent for said inventions, all to be held and enjoyed by ELECTRO SCIENTIFIC INDUSTRIES, INC., for its own use and benefit, and by its successors and assigns for their own use and benefit, for the full duration of the terms for which patent rights and letters patent may be granted in this or any foreign

country, and covenant that we have full right so to do, and agree that we will communicate to ELECTRO SCIENTIFIC INDUSTRIES, INC., and its successors and assigns, any facts known to us respecting said inventions, and testify in any legal proceeding, sign all lawful papers, execute all lawful divisional, continuation, and reissue applications, make all rightful declarations or oaths, and do everything lawfully possible to aid ELECTRO SCIENTIFIC INDUSTRIES, INC., and its successors and assigns, to obtain and enforce proper patent protection for said inventions in this or any foreign country.

Executed at Portland, State of Oregon, this 21ST day of February, 1997.

Mark D. Owen
MARK D. OWEN

STATE OF OREGON)
) ss.
County of Washington)



This 21st day of February, 1997, before me personally came the above-named MARK D. OWEN, who executed the foregoing instrument in my presence, and who acknowledged to me that he executed the same of his own free will for the purposes set forth herein.

Lora W. Dakin
Notary Public for Oregon
My commission expires: 1/31/2000

Executed at Portland, State of Oregon, this 21ST day of February, 1997.

Bonnie A. Larson
BONNIE A. LARSON

STATE OF OREGON)
) ss.
County of Washington)

This 21st day of February, 1997, before
me personally came the above-named BONNIE A. LARSON, who executed
the foregoing instrument in my presence, and who acknowledged to me that
she executed the same of her own free will for the purposes set forth herein.



Jill M. Reed
Notary Public for Oregon
My commission expires: 11/8/98

STOEL RIVES LLP
900 SW Fifth Avenue, Suite 2300
Portland, Oregon 97204-1268
Telephone: (503) 224-3380
Facsimile: (503) 220-2480
Attorney Docket No. 26860/33:47 US